

REMARKS

Claims 1-18 remain pending in the application.

I. REJECTION OF CLAIMS 1-18 UNDER 35 USC §101

Claims 1-18 stand newly rejected under 35 USC §101 as directed to non-statutory subject matter. Applicants respectfully traverse this rejection for at least the following reasons.

Citing *State Street* and *Alappat*, the Examiner asserts that claims 1-18 are not directed towards a final result that is "useful, tangible and concrete". The Examiner notes that the purpose of the requirement is to limit patent protection to inventions that possess a certain level of "real world" value as opposed to subject matter that represents nothing more than an idea or concept, or is simply a starting point for future investigation or research.

Applicants respectfully submit that claims 1-18 are in fact directed towards a final result that is "useful, tangible and concrete". Consequently, the claims are directed to statutory subject matter and the rejection should be withdrawn.

Referring to claim 1, for example, the data processor includes a signal input section to which a video signal and an audio signal are input. Applicants respectfully submit that it is well settled that video signals and audio signals (e.g., electrical signals and/or data) are concrete and tangible.

The data processor of claim 1 further includes a compressing section for coding and compressing the video and audio signals to generate video data and audio data. The compressing section (e.g., 101, 103) produces coded and compressed video and audio data. Compressed and coded data also is well recognized as something concrete and tangible.

A stream assembling section (e.g., 104) divides the video data and audio data into a plurality of packets, and makes a plurality of data units, in each of which a video packet representing a fraction of the video data and an audio packet representing a fraction of the audio data are multiplexed together to generate a data stream composed of a plurality of the data units. A writing section (e.g., 120) writes the data stream on a storage medium, also concrete and tangible.

Further, the stream assembling section (e.g., 104) determines, at least by a video playback time, what video packets and audio packets are included in each data unit. If a portion of audio data, which is associated with the video data stored in a predetermined data unit, is missing from the predetermined data unit, then copied data, obtained by copying partial audio data including at least that missing portion of the audio data, is put into the data stream.

Most importantly, such operation of concrete and tangible elements, on real and tangible data, produces a concrete and tangible result of a configured data stream including such real and tangible data. Furthermore, such concrete and tangible result is very useful. As is discussed in the present application, the present invention, and the manner in which the resultant data stream is configured "reduces significantly, or eliminates if possible, the period in which the sound is discontinued even if the video and audio data are played back in accordance with a play list, for example". (See, e.g., Spec., p. 9, Ins. 4-7). Clearly such operation is highly desirable and useful in the real world of video/audio reproduction. Similar arguments apply with respect to claim 13.

The Examiner submits that claims 1 and 13 recite conditional limitations for producing results. For example, the Examiner notes the conditional recitation "if a portion of audio data, ... is missing from the predetermined data unit ...". The Examiner argues that if the claimed condition is not met the claims will generate no useful, concrete and tangible results. The Examiner argues that in such case there will be no transforming or production of any useful, concrete and tangible results.

Applicants agree with the Examiner that the aspect of the invention, in which copied data is put into the data stream, is conditioned on a portion of the audio data missing from the predetermined data unit. However, it cannot be said that the invention in such case does not provide a useful, concrete and tangible result. The compressing section still codes and compresses the video and audio signals to generate video data and audio data. The stream assembling section still divides each of the video data and audio data into a plurality of packets and makes a plurality of data units, in each of which a video packet representing a fraction of the video data and an audio data packet representing a fraction of the audio data are multiplexed together to generate a data stream composed of a plurality of data units. The writing section still writes the data stream on a storage medium.

Applicants respectfully submit that an apparatus or process that receives, codes and compresses video and audio signals, assembles the video and audio data into packets, makes a plurality of data units by multiplexing the data to generate a data stream, and writes the data stream on a storage medium is a "useful, concrete and tangible result". Such data stream stored on a storage medium provides a "real world" result by which a user may enjoy video and audio reproduced via the data stream stored on the storage medium.

Consequently, applicants respectfully submit that the presently claimed invention provides a "useful, concrete and tangible result", having utility in the "real world", both when a portion of the audio data is missing from the predetermined data unit and when such audio data is not missing.

Furthermore, applicants respectfully submit that it is improper for the Examiner to base a finding of non-statutory subject matter by relying on only a portion of the claim (i.e., when a portion of the audio data is not missing). The claim must be considered as a whole, including each and every one of the features and elements.

For at least the above reasons, applicants respectfully submit that claims 1-18 do in fact represent statutory subject matter. Applicants respectfully request withdrawal of the rejection.

II. NEED FOR SUBSTANTIVE COMMUNICATION BETWEEN APPLICANTS AND EXAMINER

Claims 1-18 remain rejected under 35 USC §102(e) based on Locket et al. In addition, claims 1-18 remain provisionally rejected based on obviousness-type double patenting in view of Application Nos. 10/479,692 and 10/535,988.

Applicants note that their response filed on January 9, 2007, addressed the above rejection based on *Locket et al.* at pages 3-5. In such response, applicants provided very detailed arguments regarding the claimed invention and that which is taught in *Locket et al.* Applicants set forth very specific reasons why *Locket et al.* does not teach or suggest the claimed invention.

As best as applicants can tell, the Examiner's only response to such arguments was to insert the text "(i.e. reads on duplicating) [0138]" into the text of the Examiner's original rejection. (See, page 5 of the Office Action).

Setting aside for a moment the substantive merit of the Examiner's assertions, applicants respectfully submit that the Examiner has a responsibility to respond to each of the applicants' substantive arguments. If the Examiner does not respond substantively to applicants' arguments, meaningful prosecution cannot result. This unfairly places an applicant in a position of having to file prematurely requests for continued examinations, appeals, etc., thus dragging out prosecution and increasing costs to the applicant.

MPEP §707.07(f) reads in relevant part:

707.07(f) Answer All Material Traversed [R-3]

In order to provide a complete application file history and to enhance the clarity of the prosecution history record, an examiner must provide clear explanations of all actions taken by the examiner during prosecution of an application.

Where the requirements are traversed, or suspension thereof requested, the examiner should make proper reference thereto in his or her action on the amendment.

Where the applicant traverses any rejection, the examiner should, if he or she repeats the rejection, take note of the applicant's argument and answer the substance of it.
(Emphasis Added).

Such requirement is evidenced in the instructions to the Examiner, to wit:

¶ 7.37 Arguments Are Not Persuasive

Applicant's arguments filed [1] have been fully considered but they are not persuasive. [2]

Examiner Note

1. The examiner must address all arguments which have not already been responded to in the statement of the rejection.

2. In bracket 2, provide explanation as to non-persuasiveness. (Emphasis Added).

As previously noted, the Examiner's response to the applicants' arguments consisted simply of the addition of the text "(i.e. reads on duplicating) [0138]".

However, applicants note that the Examiner had already relied on paragraph [0138] of *Locket et al.* for rejecting claims 1 and 13. (See, e.g., page 3 of the first Office Action). Applicants responded to the Examiner's assertion in detail, and specifically with respect to paragraph [0138] of *Locket et al.* Namely,

The Examiner cites several paragraphs in Locket et al. when rejecting the claims. However, applicants respectfully submit that such paragraphs do not teach in any way a stream assembling section that determines if a portion of audio data, which is associated with the video data stored in a predetermined data unit, is missing from the predetermined data unit. Moreover, such paragraphs of Locket et al. do not in any way teach copying partial audio data including the missing portion of audio data and putting such copied audio data into the data stream upon determining that the portion of audio data is missing as explained above.

As a specific example, Figs. 14, 18 and 21 of Locket et al. together with paragraphs 0135 and 0138 describes a dual MPEG-2 encoder that receives two video signals from the NTSC decoders 1602 and two audio signals from multi-shared sound processors 1603. Then the dual MPEG-2 encoder multiplexes the audio and video inputs into a constant bitrate MPEG-2 transport stream and outputs the stream.

However, Locket et al. fails to teach or suggest in any way that the dual MPEG-2 encoder performs the operations of the stream assembling section as recited in claims 1 and 13 when multiplexing the audio and video inputs. Locket et al. does not teach or suggest in any manner determining if a corresponding portion of audio data is missing, and if so, providing copied data obtained by copying the missing portion of the audio data into the data stream.

(Apps. Response filed January 9, 2007, page 5; Emphasis Added).

In other words, applicants previously directly addressed the Examiner's assertions, including specifically with respect to paragraph [0138] of *Locket et al.* Applicants specifically characterized what applicants consider to be taught by *Locket et al.* Moreover, applicants specifically explained why applicants consider such teachings of *Locket et al.* not to be what is actually claimed in the present application.

By the Examiner simply responding "(i.e. reads on duplicating) [0138]", how are applicants able to substantively respond beyond that which has already been argued? At best, applicants can simply guess that the Examiner feels that the duplicate data for dual demodulators 1803 shown in Fig. 18 of *Locket et al.* represents copying in accordance with the claimed invention. However, applicants do not dispute that *Locket et al.* teaches duplicate data. What applicants argued was that *Locket et al.* did not teach or suggest determining if audio data, which is associated with the video data stored in a predetermined data unit, is missing from the predetermined data unit. Applicants argued that *Locket et al.* did not teach or suggest how audio data including at least the missing portion is copied and placed into the data stream as recited in the claimed invention. The fact that *Locket et al.* teaches dual demodulators and duplicate data is essentially meaningless with respect to applicants' arguments.

As another example, applicants specifically argued the merits of the Examiner's rejection of claims 2-5 in their previous response. In particular, applicants argued

The various dependent claims set forth specific manners in which the copied data is put into the data stream. For example, claim 2 recites that the copied data is put into the video packet of a data unit following the data unit with which the missing audio data is associated. Claim 3 recites storing the copied data within the associated data unit. Claim 4 recites storing the copied data in a dedicated audio stream within the data stream. Claim 5 recites storing the copied data in a dedicated private data stream within the data stream.

Locket et al. does not describe in any way such different manners by which copied data corresponding to a portion of audio data which is missing, is input into the data stream so that such missing audio data may still be provided.

(See, e.g., Apps. Response, page 5, next to last paragraph).

The Examiner does not address such arguments whatsoever. This is particularly prejudicial to the applicants in that claims 2-5 were never specifically addressed even in the first Office Action. The features of these dependent claims cannot simply be ignored.

As still another example, the Examiner also maintains the provisional rejections of claims 1-18 under the judicially created doctrine of non-obviousness double patenting. Applicants responded to the original rejections by noting:

... [C]laims 1-18 of the present application are not simply an obvious variation of the inventions recited in claims 1-43 and 1-16 of the '692 and '988 applications.

For example, the claims of the '692 and '988 applications do not relate whatsoever to the presently recited features of claims 1 and 13, namely:

- determining if a portion of audio data, which is associated with the video data stored in a predetermined data unit, is missing from the predetermined data unit;*
- copying partial audio data including at least that missing portion of the audio data; and*
- putting the copied data into the data stream.*

These substantive differences are in no way simply obvious variations of the claims in the '692 and '988 applications. Therefore, applicants respectfully submit that the rejection of claims 1-18 under obviousness-type double patenting in view of the '692 and '988 applications is improper. Withdrawal of the rejections is respectfully requested.

(See, e.g., Apps. Response, pages 6-7).

In the present Office Action, the Examiner simply repeats the provisional rejections previously set forth in the first Office Action (such basis being merely a

conclusion). Again, the Examiner does not respond substantively to applicants' arguments as set forth in their previous response.

Regardless of whether the Examiner agrees or disagrees with the applicants' arguments, the Examiner does have a responsibility to address the applicants' arguments substantively. Otherwise, meaningful prosecution cannot result.

Since the Examiner has not yet substantively addressed the applicants' arguments as set forth in their previous response (for the reasons noted above), applicants include herein such arguments. It is hoped that in view of the above, the distinctions between the present invention and the cited art will be appreciated and the rejections withdrawn. Should the Examiner not find the arguments convincing, applicants respectfully request that the Examiner provide a meaningful, substantive response which would enable the applicants to better appreciate what amendments, if any, may be appropriate in view of the Examiner's position. Further, should the Examiner contemplate issuing a further rejection, applicants respectfully submit that such action be made non-final as applicants have not yet received a substantive reply to their arguments.

III. REJECTION OF CLAIMS 1-18 UNDER 35 USC §102(e)

Claims 1-18 remain rejected under 35 USC §102(e) based on *Locket et al.* Applicants again respectfully traverse this rejection for at least the following reasons.

The Examiner contends that *Locket et al.* describes each of the features recited in claims 1-18. Applicants respectfully submit, on the other hand, that *Locket et al.* does not teach or suggest several features of the claimed invention.

Specifically, claim 1 defines a data processor that includes a stream assembling section *that determines if a portion of audio data, which is associated with the video data stored in a predetermined data unit, is missing from the predetermined data unit.* If

so, audio data including at least that missing portion is copied and placed into the data stream. Claim 13 describes a similar method.

For example, the present application describes how the PS assembling section 104 also generates copied data having the same contents as the separately stored data. If a portion of audio data, which is associated with the video data stored in a VOB#1, is missing from the VOB#1, then the copied data, obtained by copying at least that missing portion of the audio data, is placed into the data stream. For example, the PS assembling section 104 stores the copied data in at least the top video pack of VOB#(I+1), which is next to VOB#1. Alternatively, the copied data may be stored in an audio file separately provided from the file of the VR compliant stream. As yet another example, the copied audio data may be stored either as a private stream or as ancillary information such that the video and audio data to be played back synchronously with each other are provided as part of the data stream. (See, e.g., Spec., p. 20, ln. 8 to p. 21, ln. 15; and p. 33, lns. 11-18).

Locket et al. describes a multi-media signal processing system. The system parses an incoming MPEG stream and separates it into its video and audio components. The system then stores the components into temporary buffers. Events are recorded that indicate the type of component that has been found, where it is located, and when it occurred. The video and audio components are stored on a storage device. When the program is requested for display, the video and audio components are extracted from the storage device and re-assembled into an MPEG stream. The MPEG stream is sent to a decoder which converts the MPEG stream into output signals that are provided to a receiver. (See, e.g., paragraphs 0012-0014). *Locket et al.* describes how such a parsing operation can help simplify a system.

Notably, *Locket et al.* does not teach or suggest a stream assembling section that determines what video packets and audio packets are included in each data unit, and whether a portion of audio data that is associated with the video data stored in a predetermined data unit is missing as recited in claim 1. Moreover, *Locket et al.* does not teach or suggest providing copied data into the data stream in response to

determining that a portion of audio data is missing as recited in claim 1. The simple parsing and reassembling of the audio and video components as described in *Locket et al.* does not constitute determining when a portion of audio data is missing and correspondingly providing copied data into the data stream as a result. Similar comments apply to corresponding method claim 13.

The Examiner cites several paragraphs in *Locket et al.* when rejecting the claims. However, applicants respectfully submit that such paragraphs do not teach in any way a stream assembling section that determines if a portion of audio data, which is associated with the video data stored in a predetermined data unit, is missing from the predetermined data unit. Moreover, such paragraphs of *Locket et al.* do not in any way teach copying partial audio data including the missing portion of audio data and putting such copied audio data into the data stream upon determining that the portion of audio data is missing as explained above.

As a specific example, Figs. 14, 18 and 21 of *Locket et al.* together with paragraphs 0135 and 0138 describes a dual MPEG-2 encoder that receives two video signals from the NTSC decoders 1602 and two audio signals from multi-shared sound processors 1603. Then the dual MPEG-2 encoder multiplexes the audio and video inputs into a constant bitrate MPEG-2 transport stream and outputs the stream.

However, *Locket et al.* fails to teach or suggest in any way that the dual MPEG-2 encoder performs the operations of the stream assembling section as recited in claims 1 and 13 when multiplexing the audio and video inputs. *Locket et al.* does not teach or suggest in any manner determining if a corresponding portion of audio data is missing, and if so, providing copied data obtained by copying the missing portion of the audio data into the data stream.

The various dependent claims set forth specific manners in which the copied data is put into the data stream. For example, claim 2 recites that the copied data is put into the video packet of a data unit following the data unit with which the missing audio data is associated. Claim 3 recites storing the copied data within the associated data

unit. Claim 4 recites storing the copied data in a dedicated audio stream within the data stream. Claim 5 recites storing the copied data in a dedicated private data stream within the data stream.

Locket et al. does not describe in any way such different manners by which copied data corresponding to a portion of audio data which is missing, is input into the data stream so that such missing audio data may still be provided.

In view of the aforementioned shortcomings of *Locket et al.*, applicants respectfully request that the rejection of claims 1-18 be withdrawn.

IV. REJECTIONS OF CLAIMS 1-18 UNDER OBVIOUSNESS-TYPE DOUBLE PATENTING

Claims 1-18 also remain rejected under the judicially created doctrine of obviousness-type double patenting in view of commonly-owned *Application Nos. 10/479,692* and *10/535,988* (hereinafter the '*692 application*' and '*988 application*', respectively).

Applicants respectfully submit that claims 1-43 of the '*692 application*' and claims 1-16 of the '*988 application*' have very little in common with claims 1-18 of the present application. Consequently, applicants respectfully submit that claims 1-18 of the present application are not simply an obvious variation of the inventions recited in claims 1-43 and 1-16 of the '*692*' and '*988 applications*'.

For example, the claims of the '*692*' and '*988 applications*' do not relate whatsoever to the presently recited features of claims 1 and 13, namely:

- determining if a portion of audio data, which is associated with the video data stored in a predetermined data unit, is missing from the predetermined data unit;

- copying partial audio data including at least that missing portion of the audio data; and
- putting the copied data into the data stream.

These substantive differences are in no way simply obvious variations of the claims in the '692 and '988 *applications*. Therefore, applicants respectfully submit that the rejection of claims 1-18 under obviousness-type double patenting in view of the '692 and '988 *applications* is improper. Withdrawal of the rejections is respectfully requested.

V. CONCLUSION

Accordingly, all claims 1-18 are believed to be allowable and the application is believed to be in condition for allowance. A prompt action to such end is earnestly solicited.

Should the Examiner feel that a telephone interview would be helpful to facilitate favorable prosecution of the above-identified application, the Examiner is invited to contact the undersigned at the telephone number provided below.

Should a petition for an extension of time be necessary for the timely reply to the outstanding Office Action (or if such a petition has been made and an additional extension is necessary), petition is hereby made and the Commissioner is authorized to charge any fees (including additional claim fees) to Deposit Account No. 18-0988.

Respectfully submitted,

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